## About Our CONTRIBUTORS

AMOS G. STIKER, D.D.S. (University of Buffalo) will be recalled by regular readers of this magazine for his previous contributions on IMMEDIATE DENTURES FOR THE AVERAGE DENTIST in December, 1934, and SIMPLIFIED IMMEDIATE DENTURE IMPRESSIONS in March, 1936. Doctor Stiker again uses the visual method of telling his story through pictures.

LOUIS I. GROSSMAN, D.D.S., Dr. med. dent. explained his method of BACTERIOLO-GIC EXAMINATION IN ROOT CANAL THERAPY here last September. This month he offers a home-made incubator to help the average practitioner in making such examinations.

JOHN H. NESSON, D.M.D. (Harvard Dental School, 1922 and graduate work in periodontia, 1932-1933; Suffolk Law School, Boston, 1931) has been engaged in research since 1936 on the relationship between tuberculosis and the mouth. This investigation is being conducted at the Jewish Tuberculosis Sanatorium of New England. Doctor Nesson has contributed to both our magazines, THE DENTAL DIGEST and ORAL HYGIENE as well as to several other dental journals. His last publication in this magazine was in July, 1936: ATROPHIC CHANGES IN PERIODONTAL DIAGNOSIS. Doctor Nesson stresses periodontia in his practice.

CLEMENT J. KINCAID, D.D.S. (Indiana University School of Dentistry, 1928) makes his initial appearance in our magazine this month with an outline about cardiac emergencies in the dental office. Dentists should welcome this outline in view of the frequent and unpleasant publicity that always follows such accidents in the dental chair. Doctor Kincaid has a general practice.

BEN DENT, D.D.S. (University of Tennessee, 1932) made his introductory appearance here in October with SILICATE RESTORATIONS OF INCISAL ANGLES: PIN-LOCK INLAY AND MODIFICATION. His present article again discusses silicate restorations—this time for Class IV cavities.

Manuscripts and editorial correspondence should be addressed to the Editorial Office. Subscriptions and business letters should be sent to the Publication Office.

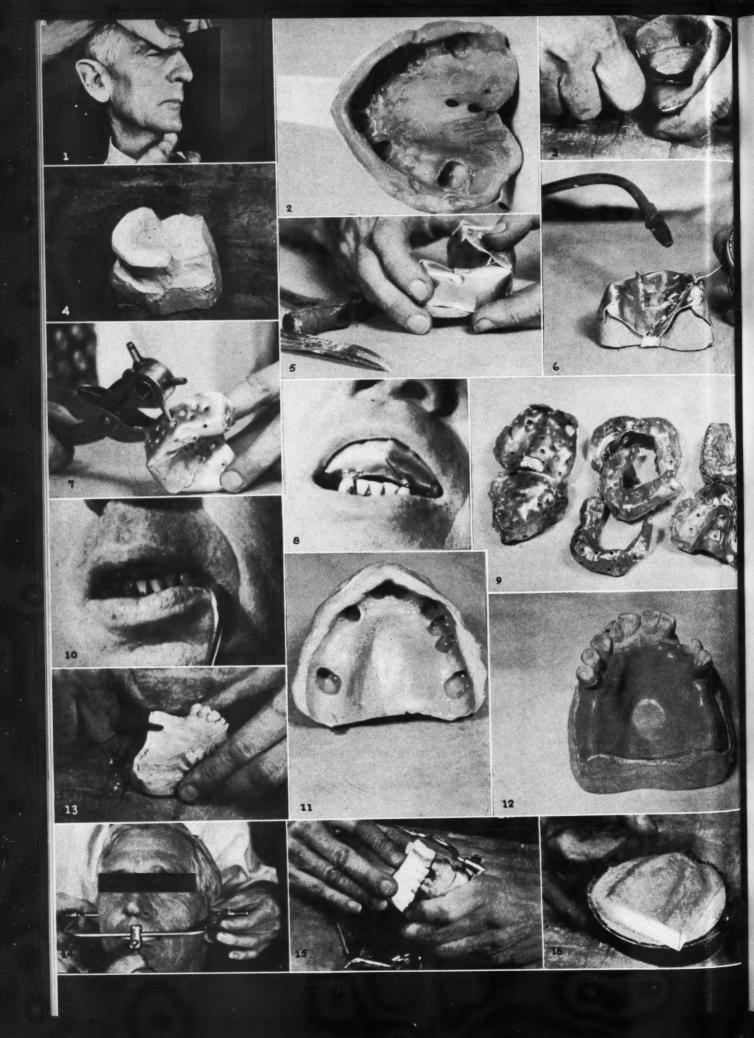
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Edward J. Ryan, B.S., D.D.S., Editor Ethel H. Davis, A.B., Assistant Editor 708 Church Street, Evanston, Illinois

SEE PAGE 529 FOR SUBSCRIPTION DATA, ETC.



## Immediate Dentures

AMOS G. STIKER, D.D.S., Addison, New York

Fig. 1—The first requirement for successful immediate denture service is complete clinical and roentgenographic examination. The record should include a profile template which may be made roentgenographically or otherwise.

Fig. 2—A snap impression is made with counter wax. A suitable impression tray should do four things: (1) Leave room for impression material around teeth; (2) avoid impingement on the soft tissues; (3) permit the jaws to close almost completely and the muscles to lie in approximately their natural positions; (4) confine the impression material.

Fig. 3—Relieve the snap impression to make room at tooth locations and over the palate. Do not relieve at periphery.

Fig. 4-An approximate cast.

Fig. 5-Air chamber metal, 1.5 mm. to 2 mm. thick, is roughly adapted to the cast to construct an individual tray.

Fig. 6-The joints are easily soldered with a hot quick flame.

Fig. 7—Holes are punched in this impression trav with a harness maker's punch. Fig. 8-The tray is fitted to the mouth. Fig. 9-An assortment of typical trays in denture construction.

Fig. 10—With the hydrocolloid-filled tray in place, the patient closes his teeth and brings the lips down to simulate muscletrimming.

Fig. 11-A finished impression.

Fig. 12-A shellac baseplate is adapted to the cast and is slightly anchored around one or two teeth to reduce forward and backward movement. This baseplate tried in the mouth will help to verify the denture periphery and check the post-dam.

Fig. 13-The cast is relieved at the palatal margin by scraping.

Fig. 14—Face-bow registration will permit some opening of the bite in the laboratory. Fig. 15—The cusps of the opposing teeth make excellent guides in mounting the casts.

Fig. 16—The plaster teeth having been cut away and the ridge trimmed as desired, the case is carried along as usual through the process of flasking. Over a duplicate cast a celluloid matrix is constructed. This will act as a guide during surgery.

Fig. 17-Celluloid flows readily at 275° F. After most of the water has been dried out by slow heat, the case is boiled in

glycerin at 300° and pressed.

Fire-resisting substitutes for celluloid are not satisfactory. They flow less readily at higher temperatures and are less trans-

If the water has not first dried out of the

stone, the celluloid will be cloudy.

Automobile oil may be used in place of glycerin but it does not mix with water and demands too careful drying as a preliminary.

If no "candy thermometer" is at hand, the correct temperature of glycerin can be judged by noting when whitish fumes are

given off in abundance. These fumes are

unpleasant but do no harm.

The pressed celluloid is trimmed with scissors. If desired, edges can be made smooth by applying acetone on cotton.

The finished celluloid is a transparent replica of the palatal side of the denture.

Fig. 18—Alveolectomy is an individual problem. In some cases it has been overdone. Certainly overhanging marginal ridges must be reduced. Prognathous cases call for extensive cutting. If alveolectomy is to be done, it is better done before extracting. Too much alveolectomy and contracting. tracting. Too much alveolectomy makes a better fit now and a worse fit later.

Fig. 19—With a periosteotome, a gum flap is slightly lifted.

Apparently, surgeons believe that bone does not regenerate from periosteum alone. but from little islands of bone attached to the periosteum. In practice, a sharp periosteotome is used and an endeavor is made to bring away "little islands of bone" with the periosteum.

Fig. 20-The marginal ridge is removed with a chisel.

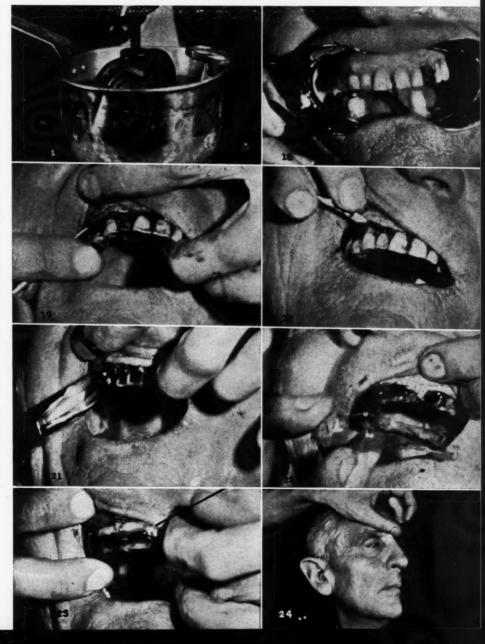
Fig. 21-When the teeth have been extracted, any remaining sharp spicules are removed with rongeur forceps.

Fig. 22-The celluloid trial plate is placed in position. Any high spots on the ridge will blanch under the pressure of the cel-

Fig. 23—High spot that must be removed before the denture will fit.

Fig. 24—The patient, after the construction of the immediate denture. The pre-ex-traction template convinces the patient that the face has not been changed.

Acknowledgement is made to A. Porter S. Sweet, D.D.S., and Ralph S. Voorhees, D.D.S. for their assistance in preparing the illustrations.



## A Home-Made Incubator for Bacteriologic Cultures

LOUIS I. GROSSMAN, D.D.S., Dr. med. d'ent., Philadelphia

APPLETON¹ AND I² have already referred to the use of a thermos bottle as an incubator. This is the simplest type of incubator, but it has certain disadvantages, such as the bother of establishing a proper initial temperature, a gradual but definite fall in temperature over a 48-hour period, and the possibility of cotton stoppers becoming wet and thus contaminating culture media.

The incubator to be described here is simple in construction, operates automatically, and will maintain a fairly constant temperature without deviating more than 3 or 4 degrees from body heat. The incubator may be constructed of a large cigar box, lunch box, or any other household container of suitable dimensions. If a wood container is used, it should be painted to prevent heat loss. Metal containers may be adequately insulated by lining the inside surface with asbestos sheeting. I have used cigar boxes for several incubators which provide enough incubating space to hold a beaker containing two tubes of culture media. A larger incubator capable of holding six tubes of culture media may be made from a child's lunch box.

#### Description of Incubator

The container to be described here consists of a metal lunch box, measuring about 8 by 6 by 3 inches and separated into two compartments. The smaller compartment contains the heating element, and the larger compartment contains the thermostat, regulator, and a tumbler containing several tubes of culture media. By placing the thermostat away from the source of heat, an electric bulb in this case, the desired temperature may be obtained. If the par-

E B G G

Fig. 1—Diagram of Incubator: A is base for 25 Watt lamp B; + and - are leads to current supply; C is thermostat and D is regulator, ordinarily in contact with arm of C; E is a perforated partition separating the container into two chambers; F is a glass tumbler holding tubes of culture media, G; H is a cotton stopper in test tube. Wood block mounting is omitted here and is shown in Fig. 4.

tition dividing the two compartments prevents sufficient interchange of air between them, holes may be punched or drilled in the partition, or else a section may be cut away with a pair of tinner's shears.

In addition to the articles listed in the accompanying table, a small

#### Materials and Cost

Quantity	Article	Pric
1	metal lunch box	.\$0.5
1	25 Watt lamp	1
1	amp base	0
	clock-type thermometer	
	alcohol thermometer	
	feet of cord	
1	olug	0
	Total	.\$1.4

<sup>&</sup>lt;sup>1</sup>Appleton, J. L. T.: Bacteriologic Control of the Treatment of Periapical Infection, D. Items Int. 49:589 (August) 1927.

<sup>&</sup>lt;sup>2</sup>Grossman, L. I.: Bacteriologic Examination of Pulpless Teeth Before Filling Root Canals, J. A. D. A. 25:774 (May) 1938.

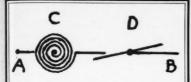


Fig. 2—Diagram of thermostat C and regulator D mounted on wooden block. A and B are electric wires attached to bases of C and D respectively. When in operation, regulator D is in contact with the arm of thermostat C.

amount of S. S. White number 160 alloy or lead solder will be required. All other parts are procurable from fiveand-ten-cent stores. The heating element is a 25 Watt bulb, set in a porcelain base. A nicrome wire coil about 2 inches long may be used in place of the bulb, if housed in a metal container, but should not be used in a wooden container because of fire hazard. The thermostat is a coiled "compound bar," obtained from the inside of a clock-type thermometer. It operates on the principle of unequal expansion of dissimilar metals, the inner surface generally consisting of a layer of iron, the outer surface, of a layer of brass. Inasmuch as one end of the coil is fixed, the other end makes and breaks contact with the electrical circuit, thereby maintaining a constant temperature. The incubator is also fitted with a small alcohol thermometer, of the "aquarium" type, to indicate the constancy or variation in temperature of the apparatus. Means for regulating the temperature are provided.

#### Construction

The parts of the apparatus are mounted as follows:

1. Two holes about 1 inch in diameter are drilled  $1\frac{1}{2}$  inches apart in a wood block of a size to fit under the roof of the larger compartment; namely,  $3\frac{1}{2}$  by  $2\frac{3}{4}$  by  $\frac{1}{2}$  inches.

2. The ends of a 12-inch strand of electric wire are exposed and one end is buried in one of the two holes drilled in the wood block.

3. The lower end of the post to which the thermostat is attached is flattened to provide anchorage.

4. Either S. S. White number 160 alloy or lead solder is now melted in a spoon.

5. The molten alloy is poured into the hole until it is flush with the sur-

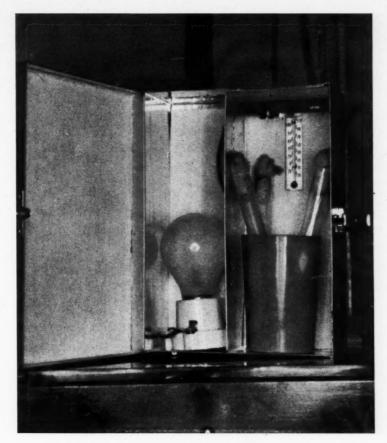


Fig. 3-Interior of incubator with door open.

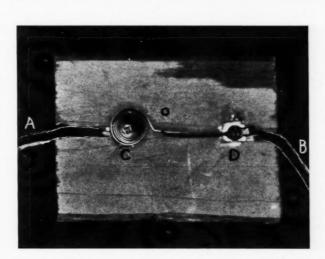


Fig. 4—Wood block mounting showing relationship of thermostat C and regulator D. Contact of D and arm of C is made at O. A and B are wires conducting current.

face, and the post of the thermostat is embedded deep enough to be held by the metal, but not too deep to prevent the thermostatic coil from moving freely above the surface of the wood block.

- The other end of the short strand is connected to one terminal block of the lamp base.
- 7. The exposed end of a longer length of electric cord (6 feet) is buried in the other hole in the wood block.
- 8: The hole in the pointer, obtained from the clock-type thermometer, is enlarged to receive a light, threaded machine screw about one-half inch long.
- 9. The pointer is also bent at right angles, one-fourth inch from each end.
- 10. The hole in the wood block is now completely filled with melted alloy or solder, and the machinescrew bearing the pointer is embed-

ded in the center and held there until the metal cools. When cooled, the screw may be loosened to turn the regulator or tightened to fasten it.

- 11. The exposed end of a shorter length of electric cord (5 feet) is connected to the other terminal of the lamp base.
- 12. The free ends are attached to a plug, to be connected with an electric outlet.

A schematic diagram of the wiring and relationship of parts is given in Fig. 1. The relationship of the parts mounted on the wood block are presented in Fig. 2.

To check the temperature of the incubator, a small alcohol thermometer may be suspended from the rear of the wood block by a thumb-tack.

#### Operation of Incubator

To operate the incubator, the regulator is allowed to make contact with

the thermostat and the plug is connected with the electric outlet. The electric bulb should light. In a minute or two, the light will go out, owing to breaking of contact between regulator and thermostat.

The point of the regulator should then be pushed closer to the thermostat, so as to re-establish contact, and the light will go on again.

By trial and error, the thermostatregulator junction may be so adjusted that the light will burn until a temperature of 98° F. to 100° F. is attained, and will automatically disconnect when a higher temperature is reached, or reconnect when a lower temperature is had. In this manner, a fairly constant temperature, between 96° F. and 100° F. is automatically maintained. This temperature is optimum for bacterial growth of oral micro-organisms.

Medical Arts Building.

## EXAMINATION FOR APPOINTMENT IN THE DENTAL CORPS, REGULAR ARMY

An examination for the selection of candidates for appointment in the Dental Corps, Regular Army, will be held during the period February 13-18, 1939.

The examination, which will include both physical and professional examinations, the latter consisting of written, oral and clinical tests, is open to male citizens of the United States between the ages of 22-6/12 and 31-9/12 years at the time of the examination who are graduates of acceptable dental schools and who have had at least 1-11/12 years subsequent practice in their profession.

Full information and application blanks will be furnished upon request to The Adjutant General, War Department, Washington, D. C. Applications will not be considered after January 31, 1939.



Fig. 1-Top, Preoperative roentgenograms; bottom, postoperative.

## Restorations With Periodontal Treatment

JOHN H. NESSON, D.M.D., Boston

Many patients with extensive periodontal lesions often present complex operative and restorative problems if the teeth involved are to be saved and the esthetics improved. Such a case is presented here.

#### Report of Case

A woman, aged 34, was referred for periodontal treatment and reconstruction of the entire mouth.

Examination — Roentgenograms were taken before treatment was

begun. Extreme flatness of the floor of the mouth prevented taking views of the lower cuspids at this time. The lower centrals and laterals were missing. There were deep periodontal pockets, accompanied by chronic hypertrophic periodontoclasia throughout the mouth, particularly about the left upper posterior teeth. Fig. 2 shows study models made of the mouth at this time:

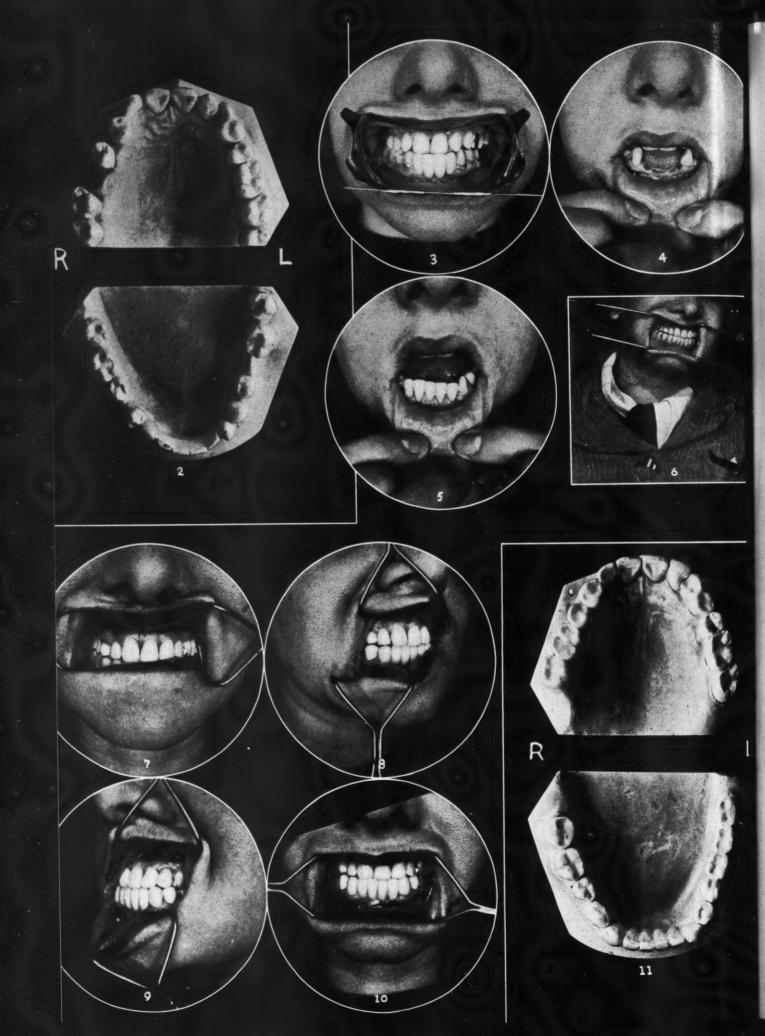
1. The upper right third molar was tipped lingually and extruded from its

socket until it almost touched the lower ridge, as a result of the loss of the opposing third molar. The tooth was decalcified and had extensive secondary caries beneath an amalgam restoration. The tooth was, therefore, later extracted.

2. The upper right second molar was tipped mesially and lingually. The mesiopalatal cusp interlocked deeply with the disto-buccal cusp of the malposed lower right second molar.

The upper right first molar had previously been extracted.

4. The upper right second bicuspid had drifted distally about 4 mm. This tooth



was loose and unfit for abutment purposes and was later extracted.

5. The upper right first bicuspid had an overhanging cast three-quarter veneer crown supplying a pin-facing cuspid pontic which extended about 3 mm. above the cervical line (Fig. 3). There was also evident an unsightly area of gold of about 2 mm. between the abutment and the pontic.

6. The upper right and left laterals were congenitally absent.

7. The upper left bicuspid occupied the position of the lateral and was in good condition.

8. The upper left first bicuspid was covered with an ill-fitting gold shell crown supplying a pin-facing pontic which overlapped the distal of the cuspid.

 The upper left second bicuspid had an occlusal amalgam restoration, and mesial and distal caries.

10. The upper left first and second molars had occlusal pit fillings undermined by secondary caries.

11. The upper left third molar was loose, had extensive secondary caries beneath an old amalgam restoration, and was later extracted. The upper left second and third molars tipped palatally, and the palatal cusps interlocked deeply with

Fig. 2-Preoperative models.

Fig. 3—Mouth at beginning of treatment. Note upper cuspids in place of laterals and upper left gold crown supplying pontic. Note also rotated position of lower right first bicuspid, right and left cuspids; open face crowns and lower cuspids and protrusive position of lower anterior bridge.

Fig. 4—Lower anterior region after removal of gold bridge.

Fig. 5—Lower anterior region with temporary partial denture in place.

Fig. 6-Mouth after completion of case.

Fig. 7—Upper anterior region after completion of case.

Fig. 8—Right side after completion. Note laterals on upper in place of cuspids, and porcelain jacket crown on lower right first bicuspid in normal relation to other teeth.

Fig. 9—Left side after completion of services. Note lateral porcelain jacket crown on cuspid; three-quarter veneer on first upper left bicuspid in place of gold shell crown and cuspid pontic. Porcelain jacket crown on lower left first bicuspid in place of gold shell crown which had been removed previously. Also note occlusal relations of anterior teeth and compare with Fig. 3.

Fig. 10—Anterior view of completed case showing all-porcelain lower cuspid-to-cuspid bridge in normal relation with upper anterior teeth. Note upper laterals in place of cuspids.

Fig. 11-Models of completed case.

the malposed lower second and third molars.

The lower right second molar had apparently been previously extracted.

13. The lower right third molar had drifted into the position of the second molar and was tipped lingually and mesially. Occlusal views of the models in this area are seen in Fig. 2. This tooth lacked interproximal contact with the first molar, resulting in a deep triangular-shaped periodontal pocket.

14. The lower right first molar had an occlusal amalgam restoration and was undermined by secondary caries.

15. The lower right second bicuspid had drifted distally about 4 mm. and was rotated slightly mesially.

16. The lower right first bicuspid had rotated so that the lingual cusp was in contact with the distal of the cuspid.

17. The lower right and left cuspids had open-face gold shell crowns supplying the missing centrals and laterals with soldered Steele facings alined in protrusive occlusion.

18. The left cuspid was rotated distally about 45 degrees.

19. An ill-fitting gold shell crown had recently been removed from the lower left first bicuspid.

20. The lower left second bicuspid had drifted distally about 2 mm., had a deep periodontal pocket and an occlusal silicate restoration.

The lower left first molar was missing.

22. The lower left second molar had an extensive periodontal pocket mesially and distally extending below the bifurcation which precluded treatment. This tooth was extracted.

23. The lower left third molar was rotated mesially and tipped lingually, in severe traumatic occlusion on its buccal surface with the lingual cusp of the left upper second molar.

#### Problems

The problems involved in this case were (1) elimination of teeth irreparably infected; (2) elimination of periodontal pockets; (3) establishment of functional occlusion; (4) restoration of better oral health; (5) treatment of caries and correction of poor restorations.

#### Plan of Treatment

The first step in the plan of treatment was (1) the extraction of indicated teeth. (2) Superficial scaling was to be done next, followed by (3) apoxesis and (4) gingivectomy. (5) Instructions in proper toothbrushing and home care would be given the patient before (6) operative procedures and prosthetic restorations would be begun. (7) There was to be a follow-up every three months.



Fig. 12—Patient after completion of services. Compare with Fig. 3.

#### Treatment

1. The periodontal tissues were treated by conservative scaling and currettage throughout the mouth with the exception of the left upper bicuspid molar area. Because of the advanced periodontal disease, it was thought advisable to perform a gingivectomy in this region. This was performed under local anesthesia.

2. A cast three-quarter veneer crown was constructed for the upper right second molar. Because of the palatal recession, the preparation was carried only about three fourths of the way to the palatal cervical margin. At the same time the deep palatal cusps were reduced.

3. A tri-surface porcelain crown was made for the upper right first blcuspid, and the second blcuspid and first molar were supplied with cast trupontics. A lateral incisor was replaced instead of a cuspid with a small lug rest against the palatal surface of the upper right central.

4. Having established the posterior occlusion, the lower cuspid-to-cuspid gold bridge was removed and a transitional partial vulcanite denture was constructed. The cuspids were prepared for castings for adaptors for a Felcher porcelain bridge:

a. The tooth is prepared as for a thimble porcelain jacket crown.

- b. Both preparations are alined, tipped somewhat mesially to each other.
- c. With the adaptors in place, a plaster impression and wax bite are taken and the porcelain baking is then completed, resulting in an allporcelain, six-tooth bridge.
- d. At the same time the alinement of the teeth was changed from the protrusive bite of the gold bridge to a slightly lingual occlusion.
- 5. The lower right side was then reconstructed:
- A cast three-quarter crown was made for the lower right second molar, bringing the tooth into occlusion with the upper right second molar, and into buccal alinement with the lower right first molar, the gold being cast on the buccal surface.

- 6. An occlusal amalgam restoration was placed in the lower right first molar.
- 7. The lower right second bicuspid was built out slightly mesially with a mesio-occlusal cast inlay
- 8. The lower right first bicuspid was restored by a porcelain jacket crown, closing the mesial and distal contacts and closing the space formerly existing between the first and second bicuspids.
- 9. A cast full gold crown was constructed for the lower left third molar.
- 10. At the same time the deep interlocking palatal cusps of the left upper first and second molars were ground down, and occlusal amalgam restorations were made in these teeth.
- 11. A cast three-quarter veneer crown was made for the lower left sec-

- ond bicuspid. The first and second molars were supplied by cast trupontics.
- 12. The lower left first bicuspid was restored with a porcelain jacket crown.
- 13. The left upper cuspid was prepared and a lateral porcelain jacket crown placed on it.
- 14. The upper left first bicuspid was prepared for a three-quarter veneer cast crown, supplying a trupontic cuspid with a lug rest against the lateral porcelain jacket crown.
- 15. The patient has returned every three months for prophylaxis and follow-up care. The roentgenograms seen in Fig. 1, bottom, and the photographs of study models seen in Fig. 11 show the condition of the mouth about a year later.
  - 120 Boylston Street.

## THE RÔLE OF THE DENTAL PRACTITIONER IN A CARDIAC CRISIS

Clement J. Kincaid, D.D.S., Chicago

#### ANGINA PECTORIS

#### Symptoms:

- 1. Pain (intense, sudden, localized under the upper part of the sternum and spreading to the left axilla and down the arm. Pain occurs after exertion, under emotional stress, or following a heavy meal.
- 2. Perspiration covers the face.
- 3. Complexion takes on a grayish discoloration.
- 4. Patient is quiet, often immobile and will remain that way until relieved.

#### **CORONARY THROMBOSIS**

#### Symptoms:

- 1. Pain, in intensity and distribution is about the same as in angina pectoris, although it can and has simulated abdominal disorders.
- 2. Pain occurs without relation to work or emotional stress.
- 3. Patient may be restless.
- 4. Cyanosis may be more marked than in angina

#### ANGINA PECTORIS

#### Treatment:

- 1. Vasodilators are indicated.
- 2. Amyl nitrite by inhalation, 3 minims, administered from an aspirol.

- 3. Follow by a tablet of nitroglycerin, 1/150 grain, placed under the patient's tongue where it is quickly absorbed.
- 4. Whiskey, one ounce, will often give good results in the presence of shock.
- 5. If treatment has so far failed to relieve attack, administer morphine sulphate, 1/4 grain, with atropine sulphate, 1/75 grain subcutaneously, repeated within ten minutes, if necessary.

#### CORONARY THROMBOSIS

#### Treatment:

- 1. One dose of nitroglycerin or amyl nitrite.
- 2. If pain is not alleviated, discontinue drug and substitute morphine sulphate, 1/2 grain subcutaneously.
- 3. Vasodilators are contra-indicated inasmuch as condition exhibits a rapidly falling blood pressure; moreover, the pain in coronary thrombosis does not respond to vasodilators.
- 4. Shock must be combatted by keeping the patient warm with external heat and blankets but adrenalin chloride is contra-indicated.
- 5. The patient is not to be moved until all pain
- has disappeared, and then, only with great care.
  6. Prompt and adequate treatment is essential but, if possible, a physician should be summoned while the emergency treatment is given.

757 West Seventy-Ninth Street.

## Treatment of Class IV Cavities: Pin-Lock Inlay and Silicate Restoration

BEN DENT, D.D.S., Memphis, Tennessee

IN A PREVIOUS ARTICLE<sup>1</sup> the restoration of one incisal angle and an extreme case of both incisal angles was presented with the technique employed in treatment for each case.

The average patient who presents to the general practitioner with both incisal angles destroyed may be treated in the simple manner to be described here.

## Indications for Method Presented Here

Indications for the frame or pinlock inlay supplemented with silicate in Class IV cavities in which either one or both incisal angles are to be restored may be summarized as follows:

- Restoration of one incisal angle
   a) in which both the labial and lingual walls are destroyed;
  - b) with the lingual wall destroyed; or

Dent. Ben: Silicate Restoration of Incisal Angles: Pin-Lock Inlay and Modification, DENTAL DIGEST, 44:418 (October) 1938.



Fig. 1--Prepare the cavity.



Fig. 2—Fill cavities with cement and bevel incisal edge. Dotted lines show cement in cavities. Carry bevel all the way across from mesial to distal.



Fig. 3—Incisal groove is cut across entire incisal bevel.

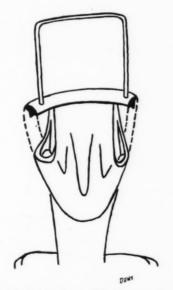


Fig. 4—Pattern is waxed by direct method. Drawing shows pattern sprued.

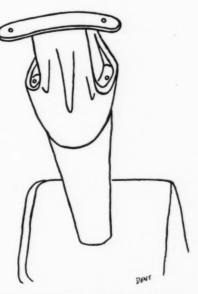


Fig. 5—Inlay in place showing holes bored 1 mm. from each free end. Pin holes are cut in gingival floor.

- c) with the labial wall destroyed.
- Restoration of both incisal angles
   a) with the labial and lingual walls destroyed;
  - b) with the lingual walls destroyed;
  - c) with the labial walls destroyed;



Fig. 6—Inlay with platinized gold wire pins through free ends and seated in gingival pin holes.

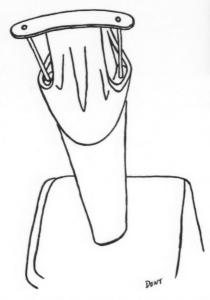


Fig. 7—Completed inlay with wires seated in gingival pin holes.





Fig. 8 (top)—Lingual and labial compound matrix lined with cellophane. Fig. 9 (bottom)—Compound matrixes of practical case.

- d) with the lingual wall destroyed on one side, and the labial wall destroyed on the other;
- e) with the lingual and labial walls destroyed on one side, and the lingual wall on the other; or f) with the lingual and labial walls destroyed on one side and the labial wall on the other.

The frame inlay, or pin-lock inlay, has ample stability. No metal shows on the labial. The pins do not cast a shadow through the silicate.

#### Technique for Restoration of Both Incisal Angles: Average Case

- 1. Prepare the cavities (Fig. 1).
- 2. Bevel the incisal edge at the expense of the lingual surface (Fig. 2). Do not cut the labial wall except for incisal correction.
- 3. Fill the mesial and distal cavities with a stiff mix of oxyphosphate of zinc cement.
- Carve to the original contour and contacts.
  - 5. Carry the incisal bevel across the

cement to the approximating tooth mesially and distally (Fig. 2).

6. Cut a groove from mesial to distal across the incisal (Fig. 3). This groove should be midway between the labial and lingual walls and should be approximately 1 mm. deep into the dentine.

7. Make the wax pattern (Fig. 4); invest, and cast in an 18 karat hard gold.

8. Remove the cement from the cavities.

9. With a number one-half round bur, drill a hole in the incisal inlay about 1 mm. from the free end on both the mesial and distal (Fig. 5).

10. With a number one-half round bur, sink a hole about 1 mm. into the gingival floor in line with the long axis of the tooth and equidistant from the labial and lingual (Fig. 5). The hole should be cut close to the enamel of the mesial and distal walls of the tooth.

11. Run 22-gauge or 24-gauge platinized gold wire pins of appropriate length through the holes in the inlay and seat them in the pin-holes prepared in the gingival floor of the cavities (Fig. 6).

12. Attach the pins to the inlay with sticky wax.

13. Remove, invest, and solder.

14. Dress the inlay into occlusion (Fig. 7).

15. With the completed frame inlay in place, fill the cavities with either temporary stopping or hard inlay



Fig. 10—Lingual view of completed restoration. No gold shows on labial.

wax, and carve to the shape desired.

16. Make a matrix of impression compound covering the lingual and incisal surface to include at least one tooth on each side of the one being restored (Figs. 8 and 9.)

17. Key the lingual matrix and with this in place, make a labial matrix in similar manner to fit into the key of that on the lingual (Figs. 8 and 9).

18. If the compound pushes into the temporary stopping or inlay wax, that area may be scraped.

19. Line with cellophane that portion of the lingual and labial matrix which covers the cavity area. Use any of the cavity varnishes to attach the cellophane to the matrixes. Paraffin made into a pencil may be used instead to line the portion of the matrixes which covers the cavity area. Rub it well onto the compound and brush off the flakes that form.

20. The temporary stopping or inlay wax is removed.

21. Isolate the cavity; dry it thoroughly, but do not dehydrate.

22. Wipe the cavity with 5 per cent phenol, allowing this to remain for five minutes; then, dry the cavity thoroughly.

23. Cement the inlay to place and after it has set, carefully remove all excess.

24. Apply the lingual matrix; mix the silicate; pack it to fill the cavity, and apply the labial matrix with pressure. Hold in position at least three minutes, preferably four or five minutes.

25. Remove the matrixes; coat the silicate with white vaseline.

26. If the lower teeth strike the lingual surface, the lingual surface may be dressed down carefully after fifteen minutes.

27. Do not attempt to finish the restoration for at least one hour. Final dressing and polishing should be done after twenty-four hours (Fig. 10).

2617 Broad Street.

## EXAMINATION FOR APPOINTMENT IN THE DENTAL CORPS OF THE NAVY

A competitive examination to select not more than twenty for appointment in the Dental Corps of the Navy will be held on July 5, 1939, at the Naval Medical School, Washington, D. C., Naval Training Station, Great Lakes, Illinois, and Naval Training Station, San Diego, California.

A candidate for appointment in the Dental Corps must be a citizen of the United States, and must be between 21 and 32 years of age at the time of appointment, a graduate of a standard dental college, of good moral character, and of unquestionable professional repute.

A circular which contains full information relative to the Dental Corps and describes the method of making application for appointment may be obtained from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

## The Editors Page

IN COMPANY with other Americans, we dentists constantly violate many of the accepted rules of nutrition. Our food selection is poor. We do not get all the necessary minerals and protective food factors. We eat too much. We can go further and say that dentists constantly violate many of the accepted hygienic laws, particularly while in attendance at a convention. A recitation of the hygienic insults at a convention might read: There are too many meals of heavy foods—the "hog and hominy" of our ancestors. There is too little sleep and too many conferences in air-excluded rooms. Exercise, even a brisk walk, is unknown to the convention attender. No word need be said about the excessive drinking and smoking. That might sound like a voice from the pulpit.

Presumably we know something about hygienic laws but do not practice this knowledge. We need more tolerance toward patients, then, who know little of the laws of hygiene, and what little they know springs from the misinformation of nostrum vendors, quacks, and faddists. We should try to blow some of the fluff off the claims made for products used in

oral hygiene.

At the present level of culture, we cannot buy health at the druggists' counters or from the grocers' shelves, although they offer for sale factors that are necessary for the maintenance of health and efficiency. There is no dentifrice that prevents dental disease nor cures it, although all have a cleaning and refreshing function. There is no toothbrush, regardless of design that can act as anything more than a stimulating and brushing instrument. Its method of use is important. When we come to the matter of foods which presumably influence mouth health, we enter a heavy fog of hocum. As Segard<sup>1</sup> has aptly said:

The parent, however well she may regulate the infant's diet, is usually not so particular about her own. The same mother who consulted the family pediatrician and used Holt as her guide, will go on a "Hollywood" or "tea and toast" diet on the advice of the neighbour's maid. Such is the stuff of which humans are made. The heighbour's maid. Such is the stuff of which humans are made. The Hog Breeder's Manual on how to breed and feed hogs has passed its 20th edition. Sherman on "How to Feed Humans" has passed its fourth edition. Yet, "The newer knowledge of nutrition is, I am convinced, the greatest advance in medical science since the days of Lister," states Sir Robert McGarrison. "When we apply the principles which this new knowledge has to impart-then will this

<sup>1</sup>Segard, C. P.: Nutrition today with Special Reference to the Vitamins, J. Canadian D. A. 4:564 (November) 1938.

knowledge do for medicine and dentistry what asepsis has done for surgery.

In his excellent article, Segard laid particular stress on the function of vitamins. He emphasizes particularly that the vitamins are necessary throughout the entire life cycle. We dentists are particularly concerned with vitamins C and D. His explanation of the function of vitamin C represents an advanced thought: In a deficiency of vitamin C there is a degeneration of collagen, the intracellular substance. The vitamin when present acts as an oxidizing agent, causing the viscous liquid collagen to congeal, forming an intracellular cementum which prevents the escape of blood through arterial walls. The petechiae found in scurvy and in gum disease associated with deficiency of vitamin C represents escape of tissue fluids

through vessel walls.

In Segard's discussion of vitamin D, he points out nothing that is new except to reaffirm that this vitamin is necessary for the absorption and mobilization of calcium and phosphorus. One statement that Segard makes which might be open to serious question is with respect to the administration of parathyroid hormone during orthodontic treatment. He reasons that because this hormone causes a resorption of the alveolar process, "It may be used in orthodontia to initiate and accelerate resorption to shorten the period of mechanical application, but a hazard certainly exists in that the patient may be unwilling to remain under observation long enough. Further, it is not so certain that recalcification will take place to the same degree as the resorption." Until we know a great deal more than we do regarding the activity of these powerful chemical agents, it is a safe warning to confine our treatments of malocclusion to mechanical devices.

Segard's point of view regarding the opportunity of the dentist to make himself an integral part of medical practice is forward-looking:

The dental surgeon holds a particularly favourable position in the elimination of disease . . . Much of the sub-normal health and development is recognized today as a partial deficiency of the adjacent tissues, as well as of the teeth. The dental surgeon, seeing the condition. may easily sound the first warning of an approaching syndrome. The dentist's chair is the easiest, earliest, and perhaps the best place to recognize them. It can be done for I have seen it in process with excellent results.

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NOTES ON THE

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october 31: For want of a better title, these wandering comments might be given the name, "Postconvention Hangovers." Things about a dental convention that are hard on the organism: Listening to the "Gone With the Wind" reports of committees that sit as if they were at Versailles, pondering the fate of the universe. If all the hours that are wasted at committee meetings that never accomplish anything were to be put end to end, they would reach back to the Paleozoic Age. . . Listening to speeches that are being made in competition to power saws or orchestras in operation. . . . Listening to the minor irritants of corridor tenors, calling for their lost friends. . . . Circuitous taxicab drivers in all convention cities who do not believe that a straight line is the shortest distance between two points.... The sameness of night clubs in New York or San Francisco or points between-something we forget from one meeting to another. . . . Women with eye-endangering feathers. Not many women attend dental meetings-otherwise a feather-clipping committee would have to be appointed so a man would not have to shadow-box during a lecture to escape a feather: First she would swing her head to the right; then, to the left; then up and down. After two hours' shadow-boxing with the feather, the dentist had saved his eye but he was ready for the showers. ... Then there are the cheery souls who awaken one from a sound sleep at 6 A.M., suggesting a breakfast "conference." Everything in the modern parlance is a "conference." People no longer get together for a casual visit. . . . And to suggest a walk to the auditorium is sacrilegious. Someday an enterprising convention-goer will write a guide book for chairmen. I hope that in the first paragraph he will suggest that after a heavy meal and before the speech-making begins there be a slight period of stretching and aeration. The effectiveness of (Continued on page 524)

## ANNOUNCING . . .

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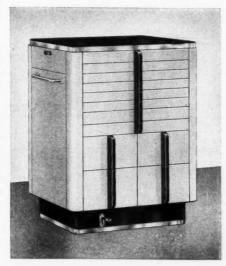
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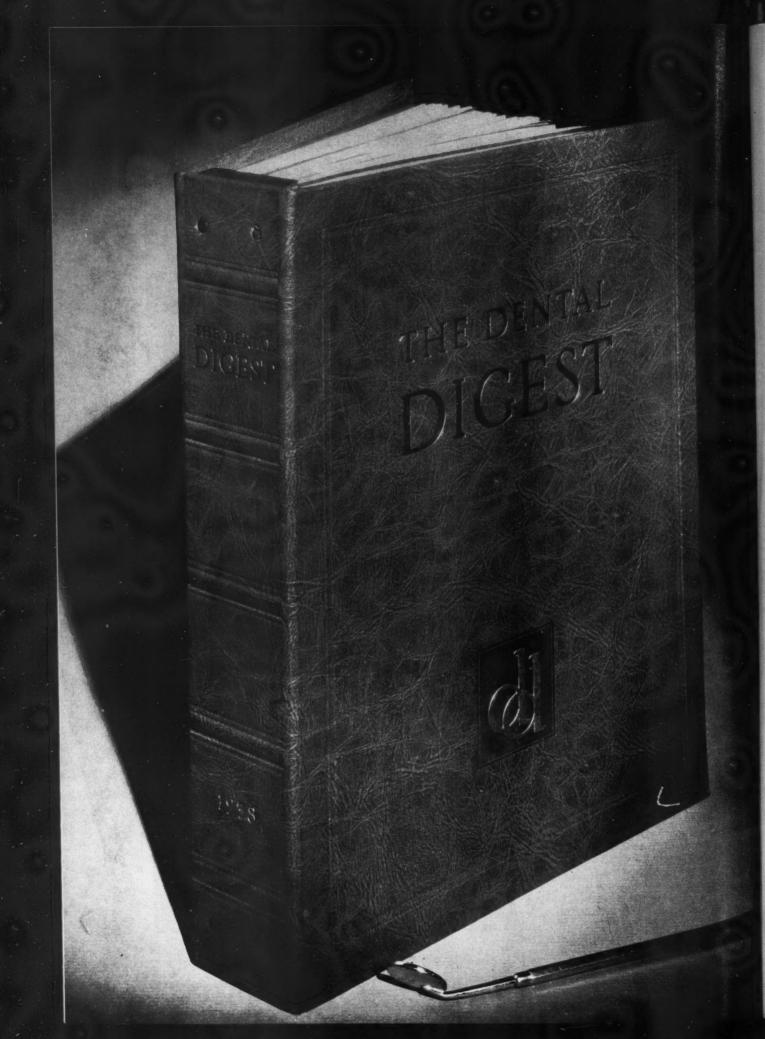


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#### THE DENTAL DIGEST

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Pittsburgh, Pa.

many dental speakers and their "message" will be greatly improved if a little fresh air were allowed to circulate through a room before the speech was started. The dozers and nappers during speeches are not discourteous nor disinterested—they are merely fulfilling a physiologic law. They are suffering from a transitory cerebral anemia brought about by the presence of blood in the digestive tract.

Back-stage with Leo Shanley and John Voyles of the Entertainment Committee, I find that dental health education has been effective. Two massive stagehands were intently discussing their dental problems. Only a week before the St. Louis convention had the Beldings announced the discovery of Streptococcus odontolyticus as the cause of tooth decay. It is the Beldings' opinion that the "degradation of the carbohydrate fraction in cereal foods" is produced by a streptococcus and that the acid thus formed produces tooth decay. One of the stagehands confided to the other that his days of cereal-eating were over. On the stage, a swing band entertained 5000 dentists in the auditorium. Behind the scenes the stagehands continued to worry about their teeth: Said one to the other, "The Mrs. says there is some germ with a big long name that grows in cereals that makes your teeth rot." Dental Health Education has reached the people!

November 11: I am a confessed pyromaniac. What the hidden psychologic meaning of this is, I am afraid to know. Driving alone to the country this warm autumn day, through a small town in Illinois, I hear the screeching fire siren. Off to the left is a cloud of smoke. Quickly there follows a cloud of dust from the pyromaniac's car. There is the house, burning without benefit of a fire department. The volunteers who have been assembled from the butcher block, the pool rooms, the barber shop come charging up in their florid truck. There is a conflict of authority. One says the hose should be dragged to the back; another says the fire should be attacked from the front. Finally, a burst of flame from the rear decides the point.

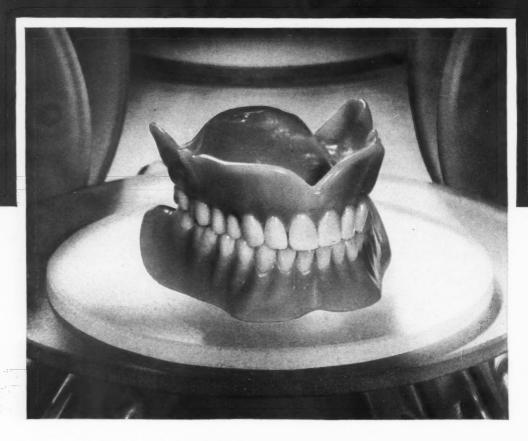
There is nothing more satisfying to a pyrophile than to grab a writhing hose and haul it toward a burning building. In my inexperienced firefighting enthusiasm, I suggested that



Biting into apples"

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set. They are, I honestly believe, as nearly perfect as any synthetic product will ever be. Aside from their adaptability, good looks, etc., I enjoy the comfort of biting into apples, peel and all, just as I did in my childhood days. In fact, I always eat the core and seeds for roughage.

"The next time you are in Chicago, I should like to demonstrate my corn, apple, celery and peanut chewing ability, a la natural, with your Luxene pinch hitters as one of my friends calls them. Also I'm willing to demonstrate, gratis, to any interested or doubting Thomases. J. J—."

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we might carry out some of the furniture, but apparently that is not being done, the object being to drench everything with water that can't burn. It appears that there is something ignoble in the firemen's code about removing things from the site of burning. A window is never opened that can be broken and it is improper to try a door to see whether it is unlocked; the thing to do is to put an ax through it.

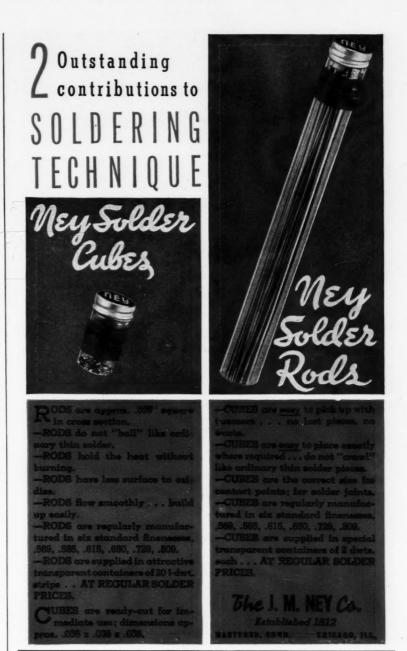
Black acrid smoke fell on my hat and stuffed my lungs at a distance of at least fifty feet from the fire. As I started to get closer to the fire, I recalled what my mother used to tell me about what happened to boys after they go to bed if they have played with fire.

The cleaning bill for a hat, a suit, and a pair of gloves should not be more than \$3.00.

November 18-19: The Chicago Health Conference, called by organized labor of Chicago, met under the chairmanship of Miss Charlotte Carr, the successor to Jane Addams of Hull House. This Conference was one of several regional meetings called to interpret the proceedings of the National Health Conference. Miss Carr announced that this was a conference of information. Anyone, she said, who had lived close to the problems of the poor has found a black spot in the services to the sick. It was not our way, not the American way, to ignore a problem even where the "how" is complex.

Two representatives of the dental profession spoke on dental needs: Harold W. Oppice, Chairman of the Coordinating Committee of the American Dental Association, interpreted the resolutions passed by the House of Delegates at the St. Louis meeting with reference to a National Health Program. He insisted that only the dental profession can determine the type of service to be rendered; that only the dental profession can indicate the criteria of adequacy and that whatever service is given under a public assistance program must be consistent with the scientific and technical advances of the profession.

Herbert E. Phillips was emphatic in saying that organized labor was behind the National Health Program. He pointed out that dental care is wholly and grossly inadequate and that when the dental story permeates the social consciousness, there will be



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a demand for action. He further stressed that emergency dental care, plastic fillings, relief of pain, and such low-grade services are unscientific, produce dental cripples, new health problems, and lower the morale of its victims.

Both Doctor Oppice and Doctor Phillips sounded the keynote that we should insist that anything less than good and complete dental care is a conspiracy and an injustice against the American people.—E. J. R.

DENTAL MEETING

Dates

Dental Protectite Association, annual meeting, Palmer House, Chicago, Illinois, December 19. A board of directors will be elected.

Eastern Dental Assistants Society, regular monthly meeting, 145 West 57th Street, New York City, December 28. The date of the January meeting is January 25.

Sigma Epsilon Delta Fraternity, annual convention, Hotel Pennsylvania, New York City, January 8.

Dallas County Dental Society, midwinter clinic, Hotel Adolphus, Dallas, Texas, January 30-February 1.

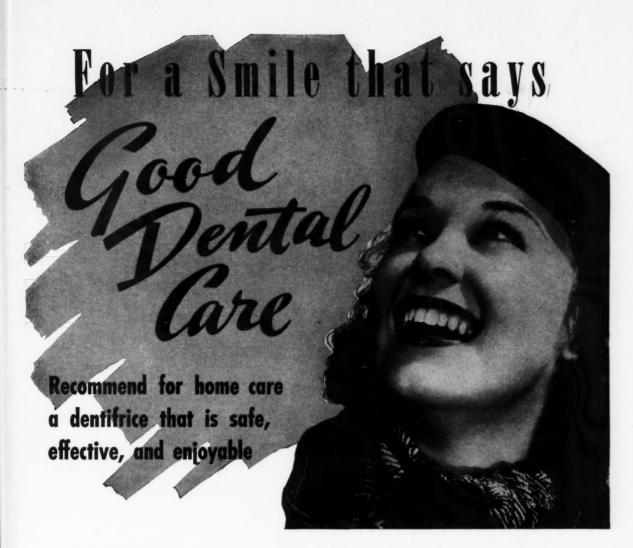
Greater Philadelphia Annual Meeting, Benjamin Franklin Hotel, Philadelphia, February 1-3.

Chicago Dental Society, midwinter meeting, Stevens Hotel, Chicago, February 13-16.

Five State Post Graduate Clinic, eighth annual meeting, Mayflower Hotel, Washington, D.C., March 5-9.

American Association of Orthodontists, thirty-seventh annual meeting, Kansas City, Missouri, April 17-20.

New Jersey State Dental Society, annual meeting, Ambassador Hotel, Atlantic City, April 19-21.



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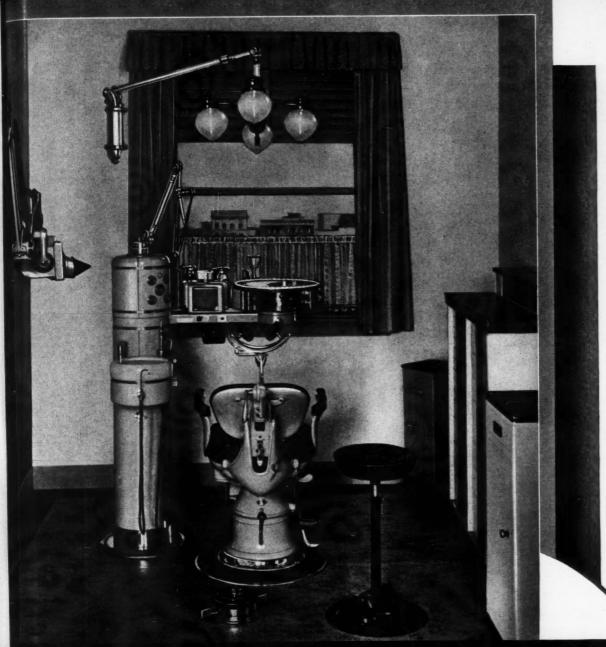
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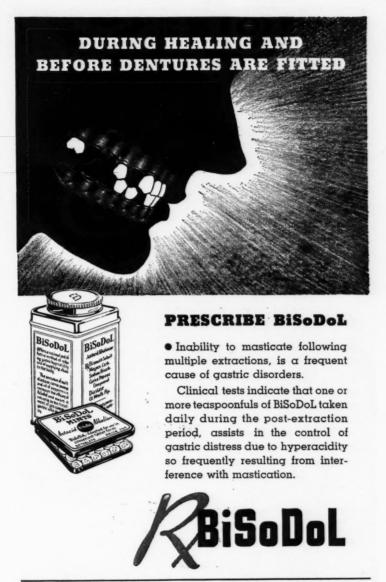
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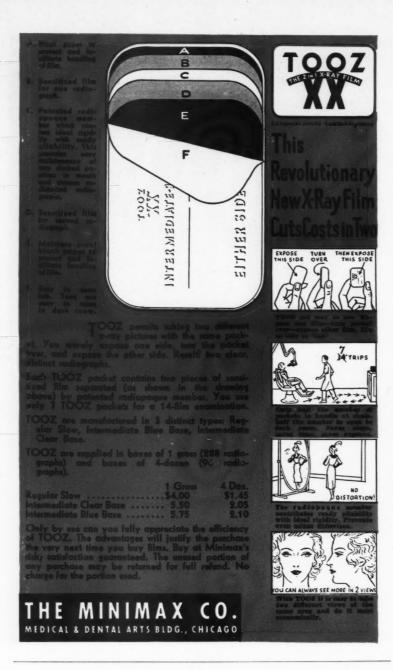
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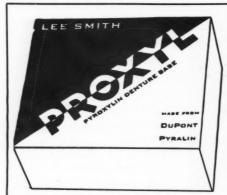


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An Oral Hygiene Publication

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EDWARD J. RYAN, B.S., D.D.S., Editor.

ETHEL H. DAVIS, A.B., Assistant Editor. PUBLICATION OFFICE—1005 Liberty

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MERWIN B. MASSOL. Publisher.

ROBERT C. KETTERER, Publication Manager.

W. EARLE CRAIG, D.D.S., Associate. STUART M. STANLEY, Eastern Manager.

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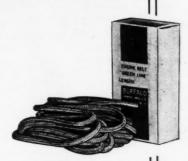
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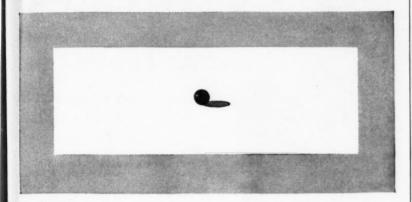
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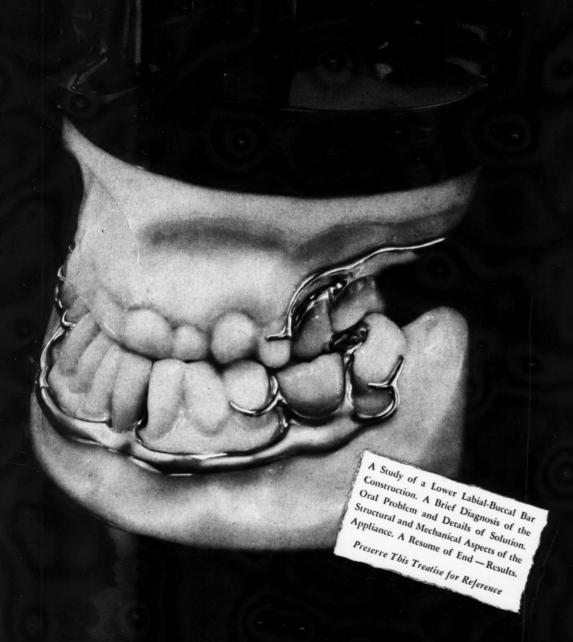


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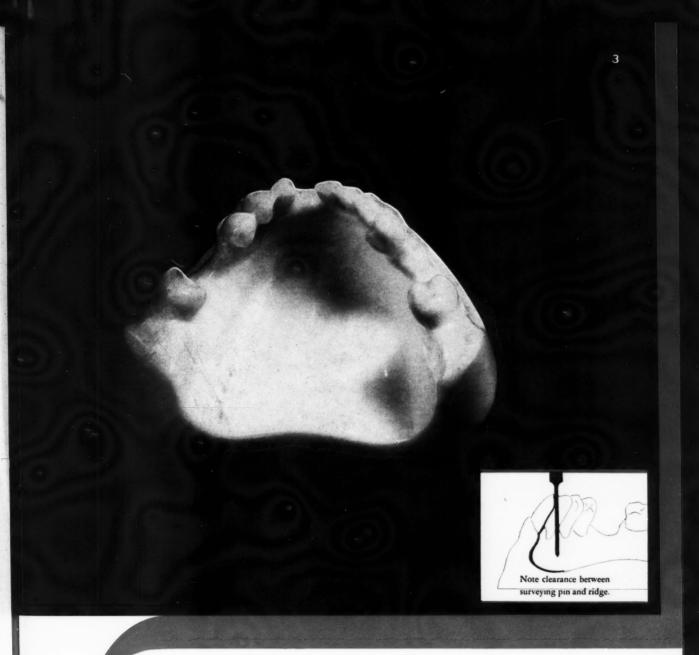
FILE REFERENCE—"LABIAL BARS"

# PROSTHETICLINIC

## Foreword:

• The scope of this clinic is restricted to a brief, pictorial presentation of a specific labial-buccal bar construction • No recommendation of this particular construction is implied • This clinic is simply the history of a practical restoration and its advantages for the particular oral conditions for which the appliance was constructed • \*Vitallium was selected and was used in the construction of the restoration because of its strength, lightness, cleanliness, \*\*compatibility, adjustability, and accuracy of fit • This study is the first of a series • Subsequent reports will be devoted to the structural and mechanical aspects of restorative appliances that are frequently designed in daily practice • It is our sincere hope that this series of Prosthetic \* Clinics will prove of substantial value to you.

<sup>\*\*</sup>Venable, Stuck and Beach, Trans. Southern Surgical Assn., Vol. 49, 1937. • Venable, Southern Medical Journal, Vol. 31, May, 1938. • Hopkins and Zuck, Medical Bulletin of the Veteran's Admin., Vol. 15, July, 1938. Venable and Stuck, The Journal of the American Medical Association, Volume 111, No. 15, October, 1938.



• Note the abnormal lingual inclination of the natural teeth from the perpendicular line • Examination with the surveyor revealed that a lingual bar would establish a clearance of approximately ½ inch between the lower border of the bar and the tissue • Even though a lingual bar could be sprung into position, the patient would experience difficulty in inserting and removing the restoration • In its distant position from the lingual ridge, such a bar would impede the patient's tongue, in addition to being a severe food trap • A labial-buccal bar restoration was indicated because of the severity of the lingual deviation of the teeth.

Photograph shows the completed case of labial-buccal bar construction.
 A study of the abutment teeth indicated the use of Akers type clasps on the bicuspids and Roach type clasps on the molars for proper retention and stabilization
 Occlusal onlays (occlusal pads) were used on the lingually inclined molars to restore the normal occlusal plane for proper masticating function
 Bar, clasps and onlays are a one-piece casting.





• Illustration shows the labial-buccal bar case on the model • The absence of the first molars permitted the second molars to drift mesially • As is common with such cases, the second molars assumed a severely tilted position • This abnormal inclination prevented proper articulation of these teeth • It was necessary, therefore, to establish proper occlusal alignment for satisfactory masticating efficiency • This Vitallium restoration is light and thin, strong and graceful • Despite the complexity of both the upper and lower appliances, the tongue is free and unimpeded; speech is not impaired; there is no mouth fatigue or denture consciousness.

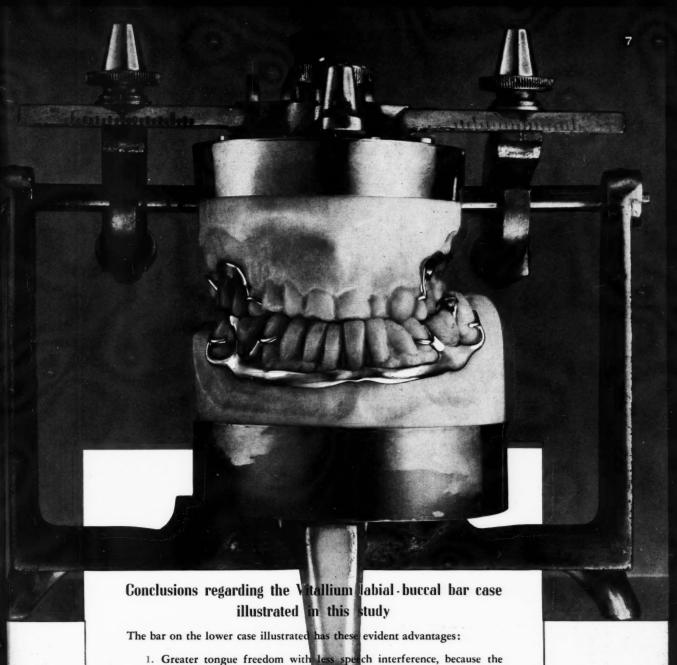




Photographs show the occluding upper partial denture off and on the model, replacing the second bicuspids and first molars
 The entire tuberosity on the left side was covered to provide a fundamentally sound position for the denture under masticating stresses
 Due to a rotating position when surveyed, a Roach type of clasp was used for best retention
 The continuous clasp against the anterior teeth was found advisable for further stabilization to prevent dropping of the left distal extension saddle.







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- Elimination of food lodgement between the bar and tissue providing greater mouth cleanliness. Vitallium itself has the cleanliness of glazed porcelain and a smoothness that resists food accumulations around clasps and extensions.
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